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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,977	02/25/2004	Tsuyahiko Shimada	826.1931	8981

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EXAMINER	
PATEL, MANGLESH M	
ART UNIT	PAPER NUMBER
2178	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,977	SHIMADA, TSUYAHIKO	
	Examiner	Art Unit	
	Manglesh M. Patel	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *(Amendment) October 5, 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This **FINAL** action is responsive to the amendment filed on October 5, 2006.

2. Claims 1-11 are pending. Claims 1, 5-10 and 11 are independent claims.

Withdrawn Rejections

3. The 35 U.S.C. 112 rejection of claim 4 has been withdrawn in light of the amendment.

Claim Objections

4. Claim 11 is objected to because of the following informalities: The claim describes "for display of the useless a information area based on the discriminating", the language of the claim is not clear because of minor informality. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-10 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaira (U.S. 6,868,183, filed on Mar 17, 2000) in view of Schneider (U.S. 5,229,589, filed on Nov 21, 1991).

Regarding Independent claims 1, 5, 7 and 9, Kodaira discloses a document processing apparatus which displays a document image using image data of a document having one or more entry columns, comprising: An image data obtaining unit obtaining image data of a document (column 4, lines 40-67, wherein the image input device includes an image scanner); An area discrimination unit discriminating an area of a document image indicated by the image data obtained by said image data obtaining unit, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful information area (column 4, lines 58-67 & column 5, lines 10-35, wherein a region discriminating unit is used to discriminate a pixel having character as a region. The discriminating unit also determines feature quantities such as presence or absence of key

regions, thereby discriminating between a useful and useless area); Kodaira fails to explicitly teach the use of a ratio for increasing the area of the useful information. Schneider discloses a data processing unit increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said area discrimination unit (column 7, lines 50-67 & column 8, lines 1-10, wherein a ratio is used to determine the useful information area by comparing the densities of the marks in the adjacent area which include the useless and useful information areas); A display control unit displaying a document image on a display device using the image data obtained by said data processing unit processing at least one of the first and second partial image data (column 7, lines 50-67 & column 8, lines 1-10, wherein the mark is displayed on the monitor thereby including a display control unit for displaying the document image). Kodaira and Schneider are analogous art because they are from the same field of endeavor of image processing. Kodaira describes the use of the discriminating units which separates the image into regions and measures the density and other attributes of the image, including size and shape. Schneider discloses the use of a ratio for determining the different densities of the image in the region which include useless and useful areas. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of a ratio to determine the image area. The motivation for doing so would have been to distinguish between the image region from the non-image region by using a ratio to measure the size and shape of the image in the area thereby saving memory. Therefore it would have been obvious to combine the teachings of Schneider and Kodaira for the benefits of allowing a document processing apparatus to display a document image using image data of a document having one or more entry columns including a ratio for determining the image area thereby saving memory by providing regions that include only the image information.

Regarding Dependent claims 2, with dependency of claim 1, Kodaira discloses wherein said area discrimination unit considers at least one direction in counting a number of pixels assumed to be used in displaying information about a document image represented by the image data, and discriminates the useful information area from the useless information area based on a counting result (abstract, column 2, lines 5-67, wherein counting is used to distinguish between the useless and useful area by using the discrimination unit).

Regarding Dependent claim 3, with dependency of claim 2, Kodaira discloses wherein when said area discrimination unit discriminates the useful information area from the useless information area based on whether or not the number of pixels counted by considering one direction is equal to or smaller than a predetermined value, said data processing unit increases a ratio of the useful information area to the entire area by performing on at least the second partial image data a process of thinning lines having the number of pixels equal to or smaller than a predetermined value in the lines in the one direction (column 14, lines 40-67, wherein a predetermined rules are part of the discrimination unit, thereby including predetermined values for the discrimination of the useful to useless regions).

Regarding Dependent claim 4, with dependency of claim 1, Kodaira fails to explicitly teach the use of a ratio for increasing the area of the useful information. Schneider discloses wherein said data processing unit performs a process on at least one of the first and second partial image data so that a ratio of the useful information area to the entire area is increased by using different display magnifications of the useful information area and the useless information area (column 7, lines 50-67 & column 8, lines 1-10). Kodaira and Schneider are analogous art because they are from the same field of endeavor of image processing. Kodaira describes the use of the discriminating units which separates the image into regions and measures the density and other attributes of the image, including size and shape. Schneider discloses the use of a ratio for determining the different densities of the image in the region which include useless and useful areas. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of a ratio to determine the image area. The motivation for doing so would have been to distinguish between the image region from the non-image region by using a ratio to measure the size and shape of the image in the area thereby saving memory. Therefore it would have been obvious to combine the teachings of Schneider and Kodaira for the benefits of allowing a document processing apparatus to display a document image using image data of a document having one or more entry columns including a ratio for determining the image area thereby saving memory by providing regions that include only the image information.

Regarding Independent claims 6, 8 and 10, Kodaira discloses a document processing apparatus which processes a document having one or more entry columns, comprising: image data obtaining unit obtaining

image data of a document (column 4, lines 40-67, wherein the image input device includes an image scanner); area discrimination unit discriminating an area of a document image indicated by the image data obtained by said image data obtaining means, and discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful information area (column 4, lines 58-67 & column 5, lines 10-35, wherein a region discriminating unit is used to discriminate a pixel having character as a region. The discriminating unit also determines feature quantities such as presence or absence of key regions, thereby discriminating between a useful and useless area); Document recognition unit recognizing the entry column entered on the document image displayed by said display control means (column 13, lines 55-67 & column 14, lines 1-39, wherein a recognition unit is used to determine the document image in the column); Correction unit correcting presence/absence of an entry in the entry column recognized by said document recognition means at an instruction of a user (column 10, lines 46-67 & column 11, lines 1-25, wherein a correction process is used to correct a presence or absence of an image in a column). Kodaira fails to explicitly teach the use of a ratio for increasing the area of the useful information. Schneider discloses data processing unit increasing a ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data which is image data of a portion for display of the useless information area based on the discrimination by said area discrimination means (column 7, lines 50-67 & column 8, lines 1-10, wherein a ratio is used to determine the useful information area by comparing the densities of the marks in the adjacent area which include the useless and useful information areas); Display control unit displaying a document image on a display device using the image data obtained by said data processing means processing at least one of the first and second partial image data (column 7, lines 50-67 & column 8, lines 1-10, wherein the mark is displayed on the monitor thereby including a display control unit for displaying the document image); Kodaira and Schneider are analogous art because they are from the same field of endeavor of image processing. Kodaira describes the use of the discriminating units which separates the image into regions and measures the density and other attributes of the image, including size and shape. Schneider discloses the use of a ratio for determining the different densities of the image in the region which include useless and useful areas. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of a ratio to determine the image area. The motivation for doing so would have been to distinguish between the image region from the non-image region by using a ratio to measure the size and

shape of the image in the area thereby saving memory. Therefore it would have been obvious to combine the teachings of Schneider and Kodaira for the benefits of allowing a document processing apparatus to display a document image using image data of a document having one or more entry columns including a ratio for determining the image area thereby saving memory by providing regions that include only the image information.

7. Claims 1-11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaira (U.S. 6,868,183, filed on Mar 17, 2000) in view of Schneider (U.S. 5,229,589, filed on Nov 21, 1991).

Regarding Independent claim 11, Kodaira discloses a method of processing a document image which has one or more entry column, the method comprising: Discriminating an area of an obtained document image between an area of useful information and an area of useless information (abstract & column 5, lines 25-35, wherein Kodaira clearly teaches a discriminating unit for extracting a predetermined region by analyzing the pixel data and attributes of the region, Further the reference indicates that the discrimination unit includes determining unit that determines "**presence or absence** of key regions...."); Kodaira does mention that "Some specific techniques for determining the region attribute from plural pieces of image data are already known, and may be used", however he doesn't explicitly describe a ratio. Schneider discloses displaying at least one of a first and second partial image data obtained by increasing a ratio of useful information to an entire area by processing of the first partial image data and the second partial image data which is image data of a portion for display of the useless a information area based on the discriminating (column 7, lines 50-67 & column 8, lines 1-10 & abstract, Schneider indicates that "questionnaires are scanned for answers handmarked thereon by defining areas of interest **which can be expanded** in an area of interest pixel map". Although Schneider refers to the ratio as the densities, the ratio is associated to the image and further part of determining the area of interest). At the time of the invention it would have been obvious to one of ordinary skill in the art to include a ratio for determining the area of interest. The motivation for doing so would have been to determine the real mark in the area of interest by increasing the ratio.

It is noted that any citation [[s]] to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is

relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. [[See, MPEP 2123]]

Response to Arguments

8. Applicant's arguments filed October 5, 2006 have been fully considered but they are not persuasive.

The applicant argues: Kodaira does not disclose "discriminating at least between two types of areas, that is, a useful information area having useful information for document processing and an useless information area having no useful information area, " but discriminating to determine image type. (See pg 8, paragraph 1).

However the Examiner respectfully disagrees: Kodaira clearly teaches a discriminating unit (abstract), by definition one of ordinary skill would understand that the discriminating unit would be used to discriminate between certain areas. Further Kodaira clearly indicates that the unit is used for extracting a predetermined region. Further the reference indicates that the discrimination unit includes determining unit that determines **"presence or absence of key regions...."** This alone is enough to provide a reasonable suggestion to one of ordinary skill in the art that the discriminating unit analyses a useless and useful information area.

The applicant argues: Therefore, Schneider uses a ratio to determine if a mark is real or not, not to increase "the ratio of the useful information area to the entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data of a portion for display of the useless the information area based on the discrimination by said area discrimination unit." (pg 8, paragraph 2).

The examiner agrees with applicant that Schneider is referencing ratio to the densities between the marks. Although Schneider refers to the ratio as the densities, the ratio is associated to the image and further part of determining the area of interest. Schneider indicates that "questionnaires are scanned for answers handmarked thereon by **defining areas of interest which can be expanded in an area of interest pixel map"**. However as described above Schneider clearly indicates that the areas can be expanded. One of ordinary skill would realize that this would mean increasing a ratio to analyze that portion of the image.

Further column 5, lines 45-50 describe that the areas of interest are defined by x/y coordinates, clearly this represents a ratio of X to Y.

The applicant argues: In contrast, it does not disclose counting the number of pixels and therefore does not disclose "using discrimination unit considers at least one direction in counting a number of pixels assumed to be used in displaying information about a document image represented by the image data, and discriminates the useful information area from the useless information area based on a counting result" (pg 8, paragraph 4).

However the examiner respectfully disagrees: The reference indicates "" The **pixel data** contained within these areas of interest is **stored in a database**..." further this information is used to determine the presence and nature of the marks. The information is stored and kept track of within a database and used to determine the mark therefore it provides enough suggestion that the pixel data is counted.

(Note: There has been no indication to expedite prosecution of the application, now that prosecution is closed the examiner advises applicant to avoid contacting the examiner for an interview. Only written responses will be considered in an After Final, otherwise examiner advises applicant to exercise CFR 1.191)

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manglesh M. Patel whose telephone number is (571) 272-5937. The examiner can normally be reached on M, W 6 am-3 pm T, TH 6 am-2pm, Fr 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manglesh M. Patel
Patent Examiner
December 19, 2006

CESAR PAULA
PRIMARY EXAMINER